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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,887	03/07/2005	Hans-Georg Fritsche	52201-0636	4136

28481 7590 06/13/2007
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EXAMINER

NGUYEN, PHU HOANG

ART UNIT	PAPER NUMBER
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1731

MAIL DATE	DELIVERY MODE
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06/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/525,887

Applicant(s)

FRITSCH ET AL.

Examiner

Phu H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/17/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 14-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 2/25/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group I (claims 1-13) in the reply filed on 5/17/2007 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Abbott et al. (U.S Patent No. 5211732). Abbott discloses a method for producing a quartz glass blank comprising: a method step in which SiO₂ particles are produced by a row of deposition burners and deposited on a cylinder outer surface of a carrier rotating about a longitudinal axis thereof to form a cylindrical porous SiO₂ soot body (column 3, line 1-12). Abbott also discloses the soot produced by the burner array will have a constant composition, e.g., it will typically be pure silica (column 5, line 59-61). Furthermore, an inner wall (69, fig. 6) of a housing (33, fig. 6) surrounding the SiO₂ soot body and extending along a substantial part of the SiO₂ soot body, inherently acts as a temperature adjustment body (reflecting or absorbing heat) altering a surface temperature of the soot body as it is being formed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-7,10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abbott et al. (U.S Patent No. 5211732) as applied to claims 1 and 2 above, and further in view of admitted prior art DE-C 198 27 945 with U.S equivalent Fritsche et al. (U.S 6321573).

Regarding claim 3, Abbott does not expressly disclose the planar element has a reflectance for IR radiation between 80% and 100%. Fritsche discloses a flat stainless steel sheet (41, fig. 4 and 5) has surfaces (42, fig. 4 and 5) which reflect infrared radiation in one embodiment (column 7, line 9-11). Since Fritsche does not put a range of reflectance, one of ordinary skill in the art at the time the invention was made would include the range of reflectance that overlapping with the range 80% to 100% for the surfaces (42).

Regarding claims 4, 5 and 12, Fritsche discloses in an embodiment, a heat shield (63, fig. 6) (corresponding to the claimed "planar element" recites in the instant claims 4,5 and 12) which has a concave shape to approximate the shape of the preform (61, fig. 6) (reflect heat of the deposition burners and heat of the forming SiO₂ soot body), is arranged on the side of the preform wherein the distance between the heat shield and the preform being formed is set at a constant (column 7, line 18-26). Accordingly claims 4,5 and 12 are rejected.

Regarding claim 6, Fritsche discloses the planar element with solid angle covering the forming SiO₂ soot body, of at least 60% (fig. 6 and fig. 7) (corresponding to fig. 2 of the instant application). Accordingly, claim 6 is rejected.

Regarding claim 7, Fritsche discloses the planar element can acts as a heat sink absorbing IR radiation (column 7, line 12-16). Accordingly claim 7 is rejected.

Regarding claim 10, it is inherent that the heat sink is relatively cooled on one side while it is absorbing heat on the other side in order to have a temperature gradient and transferring heat.

Regarding claims 11 and 13, Fritsche discloses the planar element (carried by a common bar 15, fig. 1) extends over the whole usable length of the soot body as shown on figure 1. Accordingly, claims 11 and 13 are rejected.

Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abbott et al. (U.S Patent No. 5211732) and Fritsche et al. (U.S 6321573) as applied to claim 7 above, and further in view of Altman (U.S Patent No. 4147040). The combination of Abbot and Fritsche does not expressly disclose the heat sink has a roughened surface and a blackened surface. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to maximize heat transfer by blackened the surface and increasing the surface area (roughened surface) as evidenced by Altman. Altman discloses the heat transferred is directly related to the magnitudes of the areas of the surface and the approximation to black body emissivity of the surface from the fundamental heat transfer equation (column 2, line 56 to column 3, line 2). Since the increase of surface area increases heat transfer efficiency (rougher

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surface yields higher surface area), the range of roughness R_a of at least 10 micrometers is overlapping.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phu H. Nguyen whose telephone number is 571-272-5931. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

P.N 6/6/2007


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